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ABSTRACT

One of a series prepared by the Hawaii Newspaper Agency, this teaching guide offers ideas on using the daily newspaper to teach mathematics to slow learners. Classroom activities include teaching students how to shop for bargains through newspaper advertisements, how to compute batting averages in baseball, how to write a check after adding up the items purchased, and how to read graphs. (RB)

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using your daily newspaper to teach

MATH TO SLOWER LEARNERS

An educational project of the
Hawaii Newspaper Agency, Inc.

CS 201 672

"Math can be fun!

"For many youngsters, it must be fun if they are to learn even the fundamentals.

"You can make it real and exciting even to students who may never buy a plane ticket, build a house, spend $80 for a dress, or buy groceries without having to budget.

"Try stretching their imaginations through the pages of the daily newspaper. In the process, you'll find it easy to teach the practical mathematics they will need in the 'real' world outside the classroom.

"For the majority of your students, it will be more important that they know how to make change and compute tax than that they be able to recognize an algebraic equation."—Mrs. Mee Quai P. Loo.

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Mrs. Mee Quai P. Loo, special education teacher at Waipahu Intermediate School, considers her most important task making it easier for her students to function in the every-day world outside the classroom. She finds the daily newspaper her most effective tool.

This booklet contains practical ideas for teaching mathematics. Because Mrs. Loo integrates all subject matter, it also contains liberal helpings of language arts and social studies.

The artwork was done by La Nonne Letner of KHET-TV based on rough sketches provided by Mrs. Loo. The material in this booklet was part of KHET-TV's "Living Textbook" series.

PRINTED JUNE 1968

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They Love the Outdoors

Most Hawaii children are outdoor buffs. Build on that interest to teach the value of math.

For them:

The tide chart is a must; the weather report all-important. The weather chart shows freezing cold in New York but it's ideal weather for fun in the sun in Hawaii.

Those who like to sail must check the winds and the tides. And will they be able to get home in time to watch "Bonanza" or "The Wide World of Adventure"? They'll need to use the TV schedule to work out that problem.

Or you might wish to challenge them with plans for a day of fun. Use the entertainment section of the daily paper and the food section of the Sunday paper. How much will they have to spend? Can they budget a visit to the exotic new bird park at $2.50 per adult and $1.25 per child under 12 and still have enough money left for dinner out? Or would it be better to see a movie, buy five-for-a-dollar hamburgers and go for a swim at Waikiki? But let's check some of the restaurant ads and see if we can afford some of the specials and still go to the movies? And what about transportation? Look at the bus schedules and the table of fares.

The child may not be aware that he's doing math. It doesn't matter.

He's learning to add and subtract, make contrasts and comparisons, read schedules for time, budget money, and make decisions. He's not confined to the first five problems on page 73 which don't relate at all to his sunny life in Hawaii.

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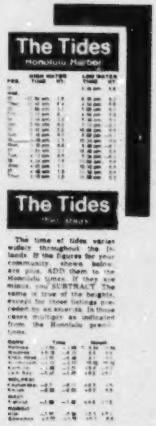
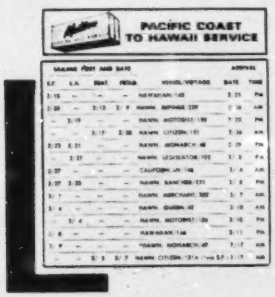
HOW DO WE READ THERMOMETERS? C? F?



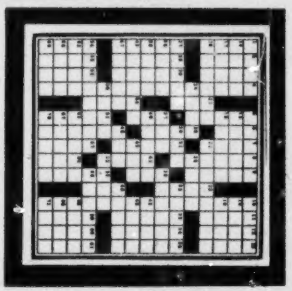


CAN WE FIND TRAVELING TIME?

EVEN HAPPY SURFERS MUST BE ABLE TO READ TIDE AND WEATHER CHARTS.

SHALL WE USE OUR RULERS?

DRAW A DIAGONAL LINE 14" LONG...



FIND THE DIMENSIONS...

...CAN YOU VISUALIZE 10⅛" x 6¼" x 2¾"?

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Simple Things May Confuse

The ruler may not be as simple to your students as it is to you. It may, in fact, be very confusing.

Let them measure columns, pictures, ads. Find out which is the longest story on the front page; how much of one column is taken by a picture; how long each column is.

Then progress to vertical, horizontal, and slant lines.

Learn diagonal lines and how long they are from TV ads. Measure the screen at home. What are the other measurements? How do we find area?

Measure shapes from ads.

Learn to recognize horizontal, vertical and parallel lines from cartoons and comic strips. Learn about right angles the same way.

Then progress to redecorating or rearranging a room at home.

They will have to start with measurements . . . inches, feet, yards. Pretty soon, they'll be involved in square feet and running yards.

Will the 9 by 12 carpet fit? If the one selected is $8.95 a square yard, how much will it cost installed wall-to-wall? Will the 8-foot couch fit under the window? If we choose the color TV, can we still afford the big lamp? How much will all these items cost? What is the cash price? The time price? What is the interest rate? Why do we have to pay interest? How many gallons of paint will it take to redo the living room walls a pretty green?

There's a multitude of measuring and figuring to do—and it's all practical. All the prices are real, for right now, in Hawaii.

Sports Pages Fascinate

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The sports pages provide a wealth of interesting mathematical problems. And, when the interest is there, the answers come more easily.

For instance, is Kalani leading? Or Castle? Or Farrington?

Where does Waipahu stand in the league?

If the headline talks about "a close call," does it mean a difference of two points or six? Is this important? What about other sports?

How would you rank the teams in order?

How is batting average calculated?

What about those percentages? What do they mean? How are they worked out?

The math textbook may have problems about Central High School in New York or Hillsdale School in New Jersey. But these are only names. The child may well feel—so what? Why bother with these schools? Why should I work out the answers when the answers mean nothing to me?

But when his own school is among the top three, it is important for him to know the score.

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Money Problems Are Ahead

The concrete problems of food, shelter, jobs and taxes loom ahead. Using ads, let your students make some of their budget and money errors at school, rather than later.

1. Imagine we have an unlimited budget to shop for a new wardrobe. A $70 price tag on a dress may bring all kinds of interesting reactions. For the boys, adding up the cost of a sharp new outfit may be astounding. To those who have never owned a suit (and spend most of their time barefoot), the prices they see may be unbelievable.

2. Imagine we have a limited budget. What kind of wardrobe can we afford? Should we look for sales? Do we have to plan, to coordinate, to ask ourselves about quality and quantity? Do we have to consider wear and tear? Aren't these the things parents talk about when their children ask for new dresses, shirts, or shoes?

Advertisements that talk about 20 per cent discount, one-half off, no down payment, can be the basis of exciting mathematical problems.

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Dream of Investing

For some children, it will be an accomplishment just to find Section E, page 8 in the paper. In the process, however, they will learn the numerical arrangement of pages and the sequence of numbers.

Later on, when reading numbers becomes easy, let them dream of money they have to invest. Buy a share of stock. See what is bid and what is asked. Find out what this means. Find out why fractions are used in stock reports. Find out which bank in Hawaii gives the highest interest rate. "Put" some money in the bank. Calculate how much you'll have in five years. What can you buy with this money at the end of five years? What would you like to buy?

Or, because your students are always hungry, plan a menu. Let them do comparison shopping in the food ads, checking the cost of staples at three or four of the big chain stores.

Let them plan a dinner for six, figuring out the cost. Fractions can be fun in recipes; so can multiplication and division when doubling, tripling or halving recipes to fit the needs of a family.

Or let them plan menus for a week, including all their favorite foods. Work out costs. Discuss what they might leave out or add.

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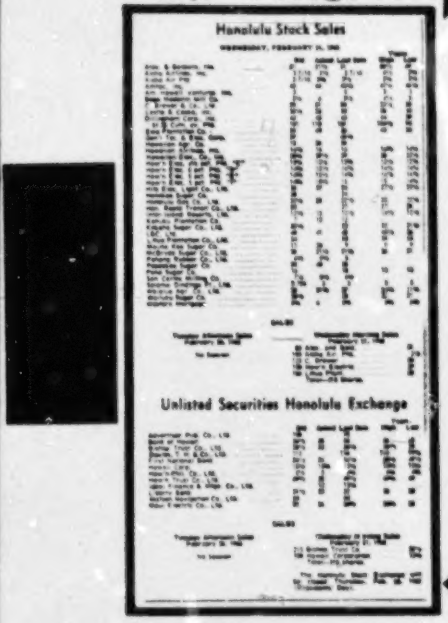
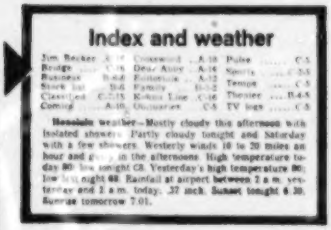
AT FIRST....



Honolulu Stock Sales

Unlisted Securities Honolulu Exchange



Index and weather

Honolulu weather—Mostly cloudy this afternoon with isolated showers. Partly cloudy tonight and Saturday with a few showers. Westerly winds 10 to 20 miles an hour and gusty in the afternoons. High temperature today 80; low tonight 68. Yesterday's high temperature 80; low this night 68. Rainfall at airport between 2 a.m. yesterday and 2 a.m. today, .37 inch. Sunset tonight 6:20. Sunrise tomorrow 7:01.

EVEN SECTIONS AND PAGES MAY BE HARD TO FIND... WEATHER REPORTS HARD TO UNDERSTAND...

BUT

LATER WHEN WE GET USED TO READING NUMBERS, WE CAN PLAY FINANCIAL GAMES WITH

$ $ $

Graphs Are Fun

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Graphs, maps and charts give a great deal of information to the child who has difficulty reading. Teach him how to interpret them—from the simplest graph on traffic deaths to the more complicated business indicators. When they know what the graph means, reading the accompanying story will be easier for them.

CIRCLE GRAPHS

MAPS...

...PICTORIAL GRAPHS

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CHARTS AND TABLES

BAR GRAPHS...

LINE GRAPHS

MAY GET STATISTICS ACROSS
MORE EFFECTIVELY THAN
COLUMNS OF WORDS, WORDS, WORDS.

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There's Math in News Stories

News and feature articles have interesting statistics and provocative ideas. There is a wealth of information for comparison and contrast, as in the following article claiming that girls spend more on clothes than boys. Sylvia Porter's articles in The Honolulu Advertiser citing the number of homes with outdoor toilets, no washing machines, or three-car garages help make percentages real for boys and girls.

Youngsters who find difficulty in reading develop great pride in their ability to read the newspaper—to find out things that are important to their own lives.

It's official, boys: the girls spend much more on clothes

By Neil Gilbride

WASHINGTON (AP) — The Labor Department has made official what most husbands already know — it costs a lot more to keep women well dressed than men.

And, says a report in the Monthly Labor Review, the higher cost of clothing the ladies persists from ages 2 to 72.

The greatest spending differences are at the ages of 16 and 17, when the average girl's wardrobe costs 42 per cent more than a boy's.

The report by Ann Brick son of the department's Division of Living Conditions Studies added that both sexes become more clothes conscious in their mid and late teens.

"Although 16 to 24-year-olds had the highest clothing bills, their average expenditures were only slightly higher than the 16 and 17-year-olds," said the report.

"Persons in both age groups tend to be fashion conscious, like to have special clothes for dates and school activities, and often have more money to spend on clothing than younger teenagers — they are more likely to have income from part-time or full-time jobs," it said.

The report, based on a survey of buying habits over several years, said the average family spends $170.72 a year on clothing for men between the ages of 16 and 64 and $219.25 on women of the same ages.

But those figures should be upped 10 per cent or more because of price hikes the past few years, the report said.

Fathers with young children, the study indicated, were lucky to squeeze an occasional new suit for themselves out of the family budget.

"For men, the lowest clothing purchases were reported for husbands whose children were all under 18," it said.

For youngsters from age 2 to 5, $73.90 a year was spent on girls and $67.40 on boys, the report said.

The higher rate of spending on women's clothes, after reaching the peak of 42 per cent for 16 and 17-year-olds, gradually decreases to 28 per cent at age 25.

NEWS AND FEATURE ARTICLES HAVE
- INTERESTING STATISTICS
- PROVOCATIVE IDEAS
- A WEALTH OF INFORMATION

FOR COMPARISON AND CONTRAST...

On a Dull Day

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On a dull day, cut out coupons. They may be for ordering books or shoes, reserving seats at a play, taking a reading course or signing up for classes at the university.

Or take those big classified ad order blanks—or the ads for economical thrifties. Write original ads. Figure out the number of words used; then the number of lines. Multiply by the cost per line. Or use the special thrifty plan, add the four percent tax and get the total.

Learn how to write a check for that amount of money, or how to get a money order from the post office. Discuss new terms, such as "minimum," "not to exceed," "average five words to a line."

LET'S HAVE FUN WRITING AN AD:
LEARNING TO READ FOR SPECIFIC INSTRUCTIONS
NEW TERM: AVERAGE
WHAT DOES MINIMUM MEAN?
HOW DO WE WRITE CHECKS?
WHERE DO WE GO FOR MONEY ORDERS?
7-DAY POP AD SPECIAL!
CLASSIFIED WANT AD ORDER BLANK
This is the fun part!

Take a Vacation Trip

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Add to these ideas, two more.

Let your students dream. Say "Let's plan a trip." Study all the travel ads. Which seems the biggest bargain? Which offers more places to see, more meals, better hotels? How much will it cost for a vacation for four? How much money will be needed for clothes? For tickets? For tips? For entertainment? What savings are there by going in a tour group? What is a tour group? What will be the tax on our tickets?

Or, get their brains working by using "Today in History."

How long ago was this?

Were we born?

If it happened in 1938, how many years ago was this?

If it happened 20 years ago, was this 1948?

How do you subtract days, weeks, months, years?

Isn't this what we figure out at the start of the school so the teacher can fill in the class register?

What else happened in this same year?

DIAMOND
BAKERY CO., Ltd.
ALL KINDS OF
CRACKERS • COOKIES AND IMPORTERS OF CANDIES
1765 South King St. Honolulu, Hawaii
Branches In
Kahului, Maui and
Lihue, Kauai

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Just a Few Suggestions

"These are just a few suggestions which may appeal to those students who are textbook-shy . . . or who hate the confining limits of the math book where the problems may seem too remote in time and place . . . or who haven't had the real joy of spending money 'just for fun.'

"Realize, also, that there will be lots of discussion when your students do problems from the newspaper. Some may lead to new adventures in learning; some will surely be eye-openers. They will all be fun.

"You may be answering such questions as: Is a tomato a fruit or a vegetable? When the ad says 30 per cent reduction, do I pay 30 per cent or 70 per cent? Why do we have to pay four per cent tax? You'll have to dream up the answer to that one. It isn't in the newspaper."—Mrs. Mee Quai P. Loo.